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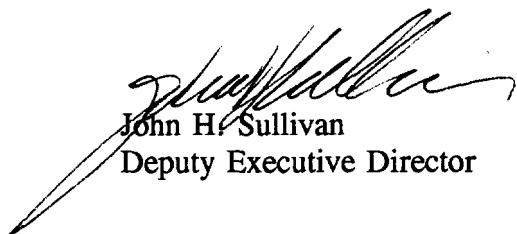
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Re: Notice of Proposed Rule Making on Wireless Communications Service in the 2305-2320 and 2345-2360 MHz Bands--Docket 96-228

Dear Commission Members:

Enclosed are the comments from the American Water Works Association on the above referenced notice of proposed rulemaking. If you have any questions on these comments, please feel to call myself or Alan Roberson in our Washington Office.

Yours sincerely,


John H. Sullivan
Deputy Executive Director

Enclosures

cc: Jon DeBoer
Alan Roberson
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**American Water Works Association
Final Written Comments on the
Federal Communications Commission's (FCC's)
Notice of Proposed Rule Making on
Wireless Communications Service in the
2305-2320 and 2345-2360 MHz Bands
(Docket No. 96-228)**

I. INTRODUCTION

The American Water Works Association is pleased to have the opportunity to comment on the Notice of Proposed Rulemaking (NPRM) on the establishment of a new Wireless Communications Service (WCS) in the 2305-2320 and 2345-2360 MHz bands. The American Water Works Association (AWWA) is an international, non-profit, scientific and educational society dedicated to the improvement of drinking water quality and supply. Founded in 1881, the Association is the largest organization of water supply professionals in the world. Our 55,000 plus members represent the full spectrum of the drinking water "community": treatment plant operators and managers, environmentalists, scientists, academicians, and others who hold a genuine interest in water supply and public health. Our membership includes approximately 3,700 public water suppliers which treat and distribute about 75 percent of the nation's drinking water.

The comments provided herein reflect the consensus of the AWWA, which, given the depth and breadth of its representation, also reflect the predominant view of the nation's public water systems (PWSs) and drinking water professionals. It is therefore appropriate that these AWWA comments be heard on behalf of the drinking water community in general.

These comments have been prepared with an intended spirit of cooperation. Only through an open sharing of expertise and information will the public's health be protected. With this in mind, we would like to recognize and acknowledge the Federal Communications Commission's (FCC's) openness to discuss and understand the issues surrounding this and other recent rulemakings. These comments are AWWA's second comments to the FCC on proposed rulemakings, and we look forward to continuing to work with the FCC so that the perspective of the drinking water community can be better understood by the Commission and their staff. These comments are organized with general comments on various telecommunications issues first, followed by specific comments that reference paragraphs in the Notice of Proposed Rule Making (NPRM).

II. GENERAL COMMENTS

We would also like to take this opportunity to inform the FCC of the operations of a typical public water system (PWS), and of their specific telecommunications needs. A PWS uses both

voice and Supervisory Control and Data Acquisition (SCADA) telecommunications to treat and distribute water. The operational facilities for a typical PWS, such as treatment plants and pumping stations, are scattered throughout a community. Yet all of these facilities and the entire distribution system (the water pipes in the ground) are interconnected. The same distribution system provides water for individual residences, fire hydrants, hospitals, dialysis centers, and businesses.

SCADA systems are critical to a PWS's operations. Depending on their configuration, SCADA systems can be used to control the scattered treatment and distribution systems. For example, SCADA systems are used to monitor water levels in storage reservoirs and distribution system pressure so that the proper pumps can be turned on to maintain adequate distribution system pressure. Another example of the use of SCADA system is for automated facilities, where the operations of one water treatment plant can be controlled at another water treatment plant.

The provision of water for firefighting by the PWSs is a public safety component that cannot be minimized. Public safety has been traditionally defined as "carrying a gun or a hose" for protection of life, property, or natural resources. But urban fire fighters cannot be effective without adequate water for fire fighting in the PWS distribution system. Distribution system pipe sizing is generally determined by fire flow requirements, i.e., a water main must be a certain size to provide a specific flow at a specific pressure in order to meet firefighting needs. Due to frictional losses in the pipe, a water main that is too small would not provide sufficient quantities of water for firefighting. In other words, distribution system pipe sizing is generally not based on normal usage from homes and businesses--it is based on the flow necessary to meet the peak flow requirements for fire fighting.

Another general issue of concern is the equitable distribution of limited spectral resources. Supervisory Control and Data Acquisition (SCADA) for water distribution and quality control utilizes digital communications for many facets of their operations. Water distribution and quality control is a public safety issue for the following reasons--not just a public service issue.

Fire fighting is vitally dependant on the availability of an adequate water supply, both quantity and pressure.

Continuous supply of water to hospitals and health centers is vital to human life.

Water transmission mains are not perfectly leak proof, and continuous pressure monitoring and control is necessary to protect against infiltration of contaminants to the water supply.

Therefore by definition, an adequate supply of quality water is essential to protect and preserve life, property, and natural resources.

Another general issue of concern is data versus voice communications. Public safety issues tend to focus on police and fire dispatch which primarily involves voice communications. Public water systems' (PWSs') functions which impact public safety also involve data communications (SCADA), not just voice based dispatch. Data and voice communications impose different

requirement for system optimization. Voice communications require real-time response, however, data can be prioritized and delivered at various times. There are sufficient needs for both voice and data concerning public safety to justify different systems allowing intermixing of both communications modes but optimized for one or the other. Based upon these requirements, we recommend that a portion of the public safety spectrum should be allocated for secure and optimal data transmission for PWS operations.

Another general area of concern that needs to be addressed is the prioritization of users within the public safety spectrum. We recommend that this issue be addressed as part of this step in the rule-making process. We do not believe that the present lottery, auction, or first come/first serve systems of allocating spectrum adequately serve the interest of public safety. Prioritization according to need should be part of the allocation process.

III. SPECIFIC COMMENTS

In order to present our specific comments in a coherent manner, we find it appropriate to present our response in narrative form with parenthetical references to relevant numbered paragraphs of the NPRM, rather than to follow the topic order of the NPRM.

A. Band Allocations

Several unanswered "public safety needs" (para 21) can be addressed with an allocation in the 2305-2320 and 2345-2360 MHZ bands. In considering the "needs of public safety" (para 19), we believe that the critical support services that a PWS provides to public safety indisputably qualify as "other needs identified by the public safety community" (para 21) to which the Commission has "a public safety interest obligation" (para 21). We believe that the PSWAC Final Report (para 21) erred in failing to recognize the importance of the role played by the PWS in protection from fire and other subtle but potentially lethal biological threats.

There is a definite "public interest" (para 21) to be addressed by the Commission in ensuring that the drinking water supply, that is vital to human survival, is adequately served with the communications needed to sustain adequate operations. There is also a "public interest" (para 21) in energy conservation, but commercial rates for continuous data communications frequently make it uneconomical to implement the necessary comprehensive monitoring and control of a utility's equipment.

An allocation in the 2305-2320 and 2345-2360 MHZ bands would address an immediate need in the utility/pipeline industry. This allocation could provide relief for low density 2 GHz frequency relocations. Because of the similarity of frequencies, users could relocate to this band with a minimum of reconfiguration. The cost of new tower sites to accommodate the propagation differences of higher bands could be avoided along with the public ill will that new towers can provoke. These systems would be easier to coordinate with Canada than DARS (para 7), for which denial of service to border residents could have a negative impact on our relations with Canada.

An allocation of frequency pairs (para 12) could provide for more Multiple Address System (MAS) services. The need is demonstrated by the number of pending requests for licensing that exceeds the amount of spectrum presently available.

This band is well suited for Point-to-point, System Control and Data Acquisition (SCADA), Microwave Relocation Relief, MAS, and Drive-by Automated Meter Reading applications. Due to the propagation characteristics of this band, some of these services could share spectrum with the appropriate coordination.

B. Spectrum Allocation

Fixed areas may not be appropriate for Public Safety, Utility/Pipeline and PWS users. Fixed areas (para 10) seldom match the terrain or the defined service area of the utility. Fixed size leads to inefficient allocation (para 16, 18).

Fixed bandwidth allocations (para 12) lead to inefficient use of spectrum. Bandwidth should be allocated on the basis of need (para 16,18).

Disaggregation (para 16, 27) is a necessity for the application of new technologies that promote spectral efficiency. This would permit use of cellular, trunking, and other new technologies to increase the capacity of individual allocations.

C. License Scope

We recognize the Commission's need to expedite the granting of licenses in this band (para 13). Allocation of spectrum on a variable area and bandwidth basis would facilitate efficient use of spectrum but would result in an increased coordination burden. The Commission may want to consider some degree of third-party and/or self-regulation as has been successful in the Amateur Radio Service. Since nationwide licensing is not precluded (para 17), the Commission may want to consider granting nationwide licenses for spectrum blocks to one or more of the national organizations that represent specific or general segments of the public safety and public safety support industries. The Commission could reduce its role to dispute resolution, and the designated industry organization(s) could manage the complexities of routine frequency coordination, coordinating cooperative ventures and protecting the legitimate needs of smaller utilities/pipelines with limited financial or technical resources.

D. Commercial Services

Public safety agencies frequently make use of commercial services for the commercial aspects of their operations. Many public safety related function that appear to be "non-mission critical" (para 22). Functions, such as dispatch, can become mission critical after storms, earthquakes and other natural disasters when practical levels of backup equipment redundancies that normally permit a casual response, are overwhelmed.

For commercial services to serve the needs of the public safety and PWS industries, several vulnerabilities in their systems would have to be addressed. First, an on-site source of

sustainable stand-by power would have to be provided at all critical facilities to ensure that service will be available during a wide-spread and/or extended power failure. Second, some means of prioritizing users would have to be built in to the system to prevent the system from being overwhelmed by events that inspires a flood of users. Something as simple as an offer of free concert tickets from a radio station to callers has paralyzed local phone systems. New digital services could be designed to offer user prioritization. Finally, some form of insurance bonding of the service would be required to protect public safety customers from abandonment to pursue other more profitable ventures that may appear in the future, in addition to bankruptcies and negligence.

Drinking water utilities are less likely to be able to compete with business purchasers of communication services due to rate restrictions from local regulators or political governing boards. We support the concept of bidding credits to encourage commercial providers to accommodate public safety, utility/pipeline and PWS users (para 22). This may be beneficial to public safety, utility/pipeline and PWS users that are too small to support private systems. Without an economic incentive, we would not expect commercial providers to address the vulnerabilities in their systems described above. The obvious question is "Why would commercial providers accommodate utility/pipeline and PWS users unless the bidding credits exceed the value of the spectrum used?" Since not all public safety uses can be anticipated, bidding credits would have to be administered retroactively. Ultimately, it may be less costly and a lesser administrative burden on the Commission, to group utility/pipeline and PWS users with Public Safety operations where their communications system security and data traffic design requirements are more compatible.

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